

A NEW REPRODUCTIVE MODE FOR AN AUSTRALIAN HYLID FROG. *Memoirs of the Queensland Museum* 34(1)200. 1993 :- The rare frog, *Litoria longirostris*, was described (Tyler & Davies, 1977) from six specimens collected from the headwaters of the Rocky R., McIlwraith Ra., Cape York Peninsula, FNEQ. Collectors of the type series observed a clump of 'bluish-gray eggs' 30 cm above water level on a tree buttress, but did not know whether or not they were eggs of *L. longirostris*.

As part of a survey to determine the status of declining and possibly declining frogs, we visited the McIlwraith Ra., from 14 - 18 September, 1993. On the banks of Peach Ck (13° 44'S, 143° 20'E) and Leo Ck (13° 22'S, 143° 22'E), in a notophyll vine forest, we found nests, eggs and embryos of *L. longirostris*. Four nests were guarded by *L. longirostris* which straddled the nests. Eggs and embryos were lime green.

Twenty three egg masses were found on dry substrate above the water, on trunks of Water Gum (*Tristoniopsis exciliflora*) (7); Rainforest Satinash (*Syzygium* sp.) (2); on granite rocks in Leo Ck (8); under leaves of rainforest shrubs (2), a living *Licuala ramsayi* palm frond (1); dead *L. ramsayi* fronds (2); and on the upper surface of a frond of *Cyoscheucheria rebecca* (1). Eggs had been laid from 4.5 - 117.5 cm above the water (mean 26.36, SD 26.54, n 22) in areas where water depth immediately below egg masses varied from 2.0 - 71.0 cm (mean 22.26, SD 18.69, n 20). All but one were associated with still water pools. Pool depths ranged from 15.5 - 120.0 cm (mean 49.74, SD 36.06, n 17). The exception (on the *C. rebecca* frond) hung over gently flowing water. Size of pools ranged from 0.5 m adjacent to fast flowing streams, to approximately 10 m in streams with gentle (<1°) gradients. Streams varied from gently sloping (<1°) with numerous pools and sandy substrate (upper Peach Ck) to fast flowing rocky streams (Leo Ck). Conductivity of the waters of the creeks ranged from 48.2 - 79.2 $\mu\text{S}/\text{cm}$ (n 6) ; pH from 6.05 - 6.59 (n 6).

Egg masses were laid with the longest axis vertical for all clutches (range 29 - 45 mm, mean 35.9, SD 4.925, n 20) and the width at the widest section ranged from 8.5 - 25.0 mm (mean 16.43, SD 3.27, n 20). The height of the egg mass with developing embryos ranged from 0.9 - 1.2 mm (n 10) and with recently laid eggs, 5 mm (n 1). Egg numbers ranged from 29 - 60 (mean 40.86, SD 6.896, n 22). The diameter of 10 eggs laid

the night before measurement ranged from 2.0 - 2.4 mm (mean 2.16, SD 0.126). The clear, jelly-like capsule surrounding the egg was approximately 6 mm deep.

Amplexus was not observed. Females near calling males were observed with lime coloured eggs visible through the groin skin. Hatching tadpoles were light yellow, with areas of brown on the dorsum and lime green yolk in the abdomen.

L. longirostris (♂♂) called from leaves over water, or occasionally from vegetation within 2m of the water. Calling sites were from 33.0 - 211.0 cm (mean 100.84, SD 50.79, n 45) above the substrate. Two males were heard calling from the upper surface of the frond of *L. ramsayi* at estimated heights of 3.5 and 5.0 m.

L. longirostris was located with *L. eucnemis* and *Rona daemeli* near streams. *Sphenophryne gracilipes* and *Cophixalus crepitans* occurred in leaf litter in adjacent areas.

This mode of reproduction is unique amongst Australian frogs (Tyler, 1985). Similar reproductive modes have been described from New Guinea and South America (Duellman & Trueb, 1986).

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Literature cited

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